

What Is Claimed Is:

1. A device for measuring weight in a vehicle,  
an expansion unit (2) being provided which becomes elongated  
5 under the influence of the weight, and a sensor system (5)  
being present which determines the elongation via a transit  
time measurement.
2. The device as recited in Claim 1,  
10 wherein the sensor system (5) uses mechanical waves to measure  
the transit time.
3. The device as recited in Claim 2,  
wherein the mechanical waves are generated in the ultrasonic  
15 range.
4. The device as recited in one of the preceding claims,  
wherein the sensor system (5) uses the pulse echo method to  
measure the transit time.  
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5. The device as recited in Claim 3,  
wherein an ultrasonic probe (2) is provided on the vehicle  
seat as an expansion unit, which can be coupled mechanically  
with the seat element (1).  
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6. The device as recited in Claim 5,  
wherein the ultrasonic probe (2) is expansible through bending  
or torsion.
- 30 7. The device as recited in Claim 6,  
wherein the ultrasonic probe (2) is located in a seat  
mounting.
8. The device as recited in Claim 5,  
35 wherein the seat element (2) forms at least part of the seat  
surface or the backrest.